

Application No. 10/650,625
Response to Office Action dated January 21, 2005
Docket No. 40200-10018

AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A low-impedance electrical resistor, comprising:
a flat rectangular metal piece made of a resistor alloy having a main surface in one plane, front and side surfaces, oppositely disposed ends and having a thickness of at least 20 μm ;
and connection contacts applied by electroplating on the main surface of the metal piece on said oppositely disposed ends ~~the opposite ends thereof~~,
wherein the front surfaces of the metal piece and the connection contacts at said oppositely disposed ends and the side surfaces of the metal piece and the connection contacts which abut perpendicularly against said front surfaces in each case are aligned with each other and extend in a direction perpendicular to the plane of the main surface of the metal piece.
2. (original) The low-impedance electrical resistor according to Claim 1, wherein the resistance value of the resistor is between approximately 0.5 $\text{m}\Omega$ and approximately 5.0 $\text{m}\Omega$.
3. (original) The low-impedance electrical resistor according to Claim 1, wherein the metal piece is a film which is attached to a substrate by its side which is turned away from the connection contacts.
4. (original) The low-impedance electrical resistor according to Claim 3, wherein the film has a thickness of less than 100 μm .

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5. (previously presented) The low-impedance electrical resistor according to Claim 3, wherein the resistance value of the resistor is greater than 10 m Ω .

6. (cancelled)

7. (withdrawn) The process for the manufacture of low-impedance electrical resistors according to Claim 6, wherein the electroplated layer is sawed for the separation of the resistors.

8. (withdrawn) The process for the manufacture of low-impedance electrical resistors according to Claim 6, wherein, prior to the electroplating, the back side of the layer is covered with a protective film.

9. (withdrawn) The process for the manufacture of low-impedance electrical resistors according to Claim 6, wherein, after the separation of the connection contact metal, the mask strips are removed and replaced by a protective lacquer is applied onto the layer.

10. (withdrawn) The process for the manufacture of low-impedance electrical resistors according to Claim 6, wherein prior to the separation step of the resistors, at least one additional layer made of the same metal or of another metal is applied onto the connection contact strips by electroplating.

11. (withdrawn) The process for the manufacture of low-impedance electrical resistors according to Claim 6, wherein a metal sheet or a film made of a Cu alloy is coated with copper for the formation of the connection contact strips and the copper strips are tin coated.

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12. (withdrawn) The process for the manufacture of low-impedance electrical resistors according to Claim 6, wherein the length width and thickness of the metal sheet pieces which remain after the separation of the resistors and the mutual interval of the remaining connection contacts are chosen to have dimensions for resistance values between approximately 0.1 mΩ and approximately 5 mΩ.

13. (withdrawn) The process for the manufacture of low-impedance electrical resistors according to claim 6, wherein the cover mask is produced on a film consisting of the resistance alloy and having a thickness of less than 100 μm, whose handling ease is achieved by attachment on a substrate, and in that the length, width and thickness of the film pieces which remain after the separation of the resistors are chosen with the dimensions for resistance values of more than 10 mΩ and preferably more than 50 mΩ.

14. (previously presented) The low-impedance electrical resistor according to Claim 1, wherein the resistor further comprises front and side surfaces cut by sawing.

15. (previously presented) The low-impedance electrical resistor according to Claim 1, wherein the resistor further comprises front and side surfaces cut by a laser.

16. (previously presented) The low-impedance electrical resistor according to Claim 5, wherein the resistance value of the resistor is greater than 50 mΩ.

17. (currently amended) The low-impedance electrical resistor according to Claim 1, wherein the front and side surfaces of the metal piece extend from the plane of the main surface in an identical direction and each extend in a direction that is parallel to the corresponding surface of the oppositely disposed end.

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18. (currently amended) A low-impedance electrical resistor, comprising:
a flat rectangular metal piece made of a resistor alloy having a main surface and
a thickness of at least 20 μm ;

and connection contacts applied by electroplating on the main surface of the
metal piece at the oppositely disposed ends thereof,

wherein said metal piece and said connection contacts at said oppositely
disposed ends comprise front surfaces and side surfaces that are cut by sawing,
said front surfaces of the metal piece and of the connection contacts and said
side surfaces thereof which abut perpendicularly against said front surfaces being
aligned with each other perpendicularly to the plane of the main surface of the metal
piece.

19. (currently amended) A low-impedance electrical resistor comprising:
a flat rectangular metal piece made of a resistor alloy having oppositely disposed
ends and a thickness of at least 20 μm ,

and connection contacts applied by electroplating on a main surface of the metal
piece on the said oppositely disposed ends thereof,

wherein said metal piece and said connection contacts at said ends comprise
front surfaces and side surfaces that are cut by a laser,

said front surfaces of the metal piece and of the connection contacts and said side
surfaces thereof which abut perpendicularly against said front surfaces being aligned
with each other perpendicularly to the plane of the main surface of the metal piece.